

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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October 15, 2001

United Kingdom Restructures its Amateur Radio Service

New Foundation License basically ends Morse Testing for beginning HF Operation

"The aim of the Foundation License is to facilitate a simple entry into Amateur Radio as a hobby where you will be able to make friends from all walks of life. We hope that as experience and confidence increases, Foundation licensees will progress up the Amateur Radio ladder to obtain a more advanced Amateur license, with all its attendant privileges." [RSGB]

On September 21, the UK's Radio Society of Great Britain and their federal Radiocommunications Agency jointly announced a series of changes to amateur radio licensing designed to make amateur radio more attractive to beginners. The RSGB is the national amateur radio society in Great Britain; the RA their government telecom regulatory agency.

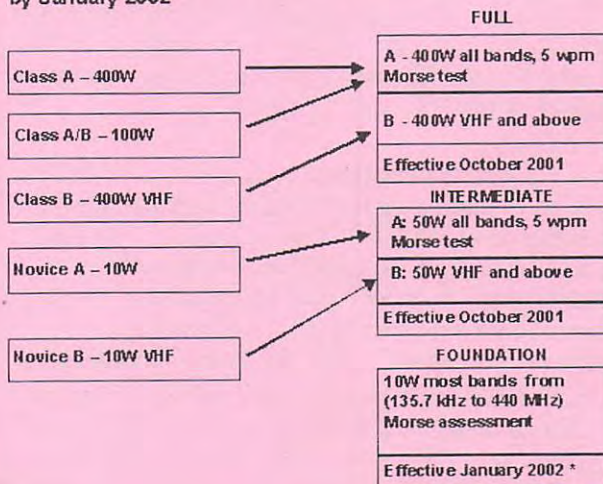
The restructuring included lowering the Morse code speed requirement to 5 words-per-minute for full licensees, combining some license categories, allowing trainees to operate while supervised before passing an examination and the introduction of a new *Foundation Class* license for newcomers. The changes were widely rumored, but there were some surprises.

Summary of the new UK ham radio lineup

Prior to October 1st, there were three license classes in the United Kingdom. The "Full" license had two versions - Code and No-code. The Class "A" (all band) Full required 12 wpm Morse exam while the Class "B" Full (VHF and above) had no code requirement. Both permit 400W output power. Their Class A/B level (with a 5 wpm code proficiency requirement) yielded all band privileges at reduced (100 watt) power output. The 10 watt Novice Class also had two variations; (all band "A") 5 wpm code and (VHF and above "B") no code. (See Table No. 1.) There are no CW-only segments in the UK and the RA says it has no plans to set aside some parts of HF for exclusive Morse operation.

Table No. 1

Structure of UK amateur licensing planned to be implemented by January 2002



* Anticipated implementation date

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Earlier this year the *European Conference of Postal and Telecommunications Administrations* (CEPT) recommended that the Morse requirement for their Class 1 license (equivalent to a UK Full Class A) be reduced from 12 to 5 words-per-minute (wpm). CEPT is a federation of national telecommunications agencies across Europe. This has provided the Agency with an opportunity to review the amateur radio licensing structure.

In line with the CEPT recommendation, effective October 1, 2001, the UK Full Class "A" and "A/B" was combined into the 400 watt Full Class "A" license and the Morse code testing requirement reduced to 5 words-per-minute.

The current 400 W Class B does not change. It still will authorize 400 watt operation on all bands 6-meters and higher. The current 10 watt Novice (all band) "A" and "B" (VHF and above) class has been renamed the Intermediate Class and output power to the antenna increased to 50 watts.

But the big news is the establishment of a new beginning "Foundation" Class level. Although primarily aimed at youngsters in the 9 to 11 year old age bracket, the new license class is available to anyone. It essentially yields 10 watt all mode, all band operation between 135.7 kHz and 440 MHz - except 10 meters. (See Table No. 2)

The Agency and the RSGB hope that by introducing this new licence level, amateur radio will become more attractive and accessible to both young and old, and that by taking this first step on to the licensing ladder, Foundation licensees will be motivated to undertake a process of self training to acquire higher license privileges.

The absence of 10 meters is to discourage CB operators from operating with increased power in the Amateur ten meter band. Foundation license equipment is required to be commercially manufactured transceivers or kits which do not provide access to ten meters. If CB'ers want long distance communication privileges, they must be trained for the Foundation license by other radioamateurs.

At present, the UK Radio Amateur Exam (RAE) program is administered by the City & Guilds Institute, a London-based vocational testing operation. The RAE is a two part multiple-choice examination held twice yearly that tests electronic theory, license conditions, interference and operating procedures. The Novice RAE is held four times each year at City & Guilds exam centers.

Future plans are, however, for the RSGB and ham radio clubs to assume the Amateur Radio training and testing function. Thought is being given to using "new examination technology" (otherwise known as computers) with each candidate being administered a unique examination. Also being considered is "e-licensing" (or electronic authorization.)

Since "G" prefix call signs ran out in England in

1996, Full Class "A" licensees are now issued call signs beginning with the prefix: "M0" with Full Class "B" getting "M1." Novices get "2E" prefix call signs. (Scotland ham prefixes are: MM and 2M for Novices; Wales MW and 2W; Northern Ireland MI and 2I; Isle of Man MD and 2D; Jersey MJ and 2J; and Guernsey and other possessions MU and 2U.) Class A/B call signs are issued from the "M5" block. Holders of the "A/B" class are being offered the choice of either retaining their existing "M5" callsign or changing to an "M0" prefix.

The new UK Foundation Class callsigns will come from the "M2" prefix series. (A Scottish Foundation license would have an MM2 prefix.) Newcomers will even be permitted to select their own suffix if it is available ...such as M2JIM.

The UK's new "Foundation" license

The new Amateur Radio restructuring was formally announced in a joint presentation by the RSGB and the UK's Radiocommunications Agency at the Leicester Amateur Radio Show and Convention held September 21 and 22, 2001 in Leicestershire, England.

The RSGB and RA, which had been working on restructuring their Amateur Service for some time, de-emphasizes Morse code at the beginning level. In fact, it basically eliminates it in the new Foundation license ...even for HF operation!

Commenting on the new Foundation licence, Martin Cain, Head of the Radiocommunications Agency's Specialist Sectors Unit said, "There has long been a need to stimulate further interest in amateur radio in the UK. My colleagues and I firmly believe that the Foundation license, coupled with the support of existing radioamateurs, will go a substantial way to achieving this aim."

Don Beattie G3BJ, the President of the RSGB, warmly welcomed agreement on the new Foundation license. "We now have a more accessible entry point for those who want to become radio amateurs," he said. "Hopefully many will go on to grow in technical skill and competence through qualifying at the more advanced levels of licensing."

He asked all UK amateurs "...to help make the new Foundation License the success it deserves to be." The new UK ham radio licensing structure will be the final change prior to the World Radio Conference in 2003. The Foundation license will be introduced at the beginning of 2002. The RA said that a revised integrated structure of qualifications and examinations for the various licenses are planned to be implemented on January 1, 2004.

It is widely expected that WRC2003 will remove the Morse requirement. If it is abolished, the "A" and "B" class distinction in the current Novice/Intermediate and Full licenses will be removed.

[Continued on Page 10]

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LATE BULLETIN! NEW ARRANGEMENTS MADE TO PROVIDE HF ACCESS FOR UK CLASS B AMATEURS.

Following the September 21st announcement on the new licensing structure, further discussions between the Radio Society of Great Britain (RSGB) and the UK government Radiocommunications Agency (RA) have resulted in an agreement on the introduction of a "bridging process" that will allow Class B (VHF and above) license holders access to the HF bands without having to take a five words-per-minute Morse test.

Effective January 1, 2002 those Class B licensees who have held a Class B license for at least 12 months, and wish to gain access to the HF bands, may obtain a Foundation License by simply taking the Foundation License "Morse Assessment." (See page 10 for what this entails. Basically it adds no-code HF privileges to the full Class B VHF only license.) This will enable them to operate on the HF bands as Foundation licensees with an output power level of 10 watts.

They will have to apply for a Foundation license and use their M2 callsign when operating on the HF bands. They will, of course, continue to enjoy the privileges of their existing Class B license while operating above 30 MHz.

Martin Caine of the RA said, "This shows the value that the RA places on our relationship with the RSGB. The Agency, following recommendations from the RSGB, is very pleased to be able to fast-track Class Bs into the Foundation License structure."

Following this development, the RSGB said it will be announcing shortly a special "Morse Campaign" for Class B's who wish to take this long-awaited opportunity to operate on HF. Further details about all these changes and a series of "Frequently Asked Questions" can be found on the RSGB web site at <www.rsgb.org>

FCC PUBLIC NOTICES ON FILING OF APPLICATIONS

The FCC said On September 28th that (as of October 15th) it will no longer accept the paper document FCC Form 605 that bears an edition date prior to March 2001. "You can avoid this problem by submitting your application online at: <<http://www.fcc.gov/wtb/uls>>," FCC said. You also can get a current copy of the FCC Form 605 from the FCC's forms page on the Internet at: <<http://www.fcc.gov/wtb/csinfo/orderfrm.html>>.

The FCC Form 605 is a generic form used by the Ship, Aircraft, Amateur, Restricted and Commercial Operator, and General Mobile Radio Service. The notice does not apply to the NCVEC Form 605 which is a different form used by the VEC System.

In another Public Notice on September 13th, the FCC said that Commercial Radio Operator licenses are supposed to be renewed within the final 90 days before

expiration, but waivers for earlier filing can be sought and approved.

Commercial radio operator licenses include Radiotelegraph Operator's Certificates, Radiotelephone Operator Licenses and Permits, Marine Radio Operator Permits, and GMDSS Radio Operator and Maintainer Licenses.

The General Radiotelephone Operator License (being a lifetime license) is not involved. Previously, commercial radio operator licenses could be renewed at any time during the last year of the license term and up to five years after the license expiration date.

"Applicants who are unable to submit their renewal applications during the ninety-day period may submit their applications for renewal in advance of the filing period." The FCC said it recognizes that, "For example, a licensee may have contracted to be at sea during the entire 90 day license renewal period, and thus unable to seek renewal of the license during the filing window." Such applications must be accompanied by a request for a waiver of the ninety-day rule explaining the circumstances necessitating the premature filing of the renewal application.

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of October 2001:

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0SE	KI0RZ	(***)	KC0LLQ
1 (*)	AA1YX	KE1LZ	(***)	KB1HGA
2 (*)	AB2RE	KG2RN	(***)	KC2IMN
3 (*)	AA3XO	KF3EC	(***)	KB3HCD
4 (*)	AG4LB	KV4FX	(***)	KG4PLL
5 (*)	AD5FW	KM5XL	(***)	KD5PWR
6 (*)	AD6ZQ	KR6ET	(***)	KG6ICW
7 (*)	AC7OY	KK7WZ	(***)	KD7OLY
8 (*)	AB8LN	KI8KB	(***)	KC8SGR
9 (*)	AB9DF	KG9RA	(***)	KC9AIL
N. Mariana	NH0Z	AH0BB	KH0NM	WH0ABP
Guam	(**)	AH2DO	KH2VO	WH2AOC
Hawaii	(**)	AH6RB	KH7ZZ	WH6DGP
Am.Samoa	AH8W	AH8AI	KH8DP	WH8ABF
Alaska	(**)	AL7RR	KL1ES	WL7CVJ
Virgin Isl.	(**)	KP2CS	NP2LT	WP2AIN
Puerto Rico	WP3T	KP3BK	WP3MW	WP4NOU

* = All 1-by-2 and 2-by-1 call signs have all been assigned. AA-AK-by-2 now being assigned.

** = All 2-by-1 call signs have been assigned.

*** = Group "C" (N-by-3) call signs have all been allocated in all districts. (K-by-3 and W-by-3 are not assigned under the sequential call sign system. Available only to the Vanity Call Sign system.)

Note: The following prefix numerals are now allocated to Puerto Rico (KP, NP, WP3 or 4), Hawaii (AH, KH, NH, WH6 or 7) and Alaska (AL, KL, NL WL1 thru 0)

[Source: FCC Amateur Service Database, Washington, DC]

CUTTING EDGE TECHNOLOGY

Telesurgery allows surgeons to perform operations anywhere in the world. A New York-based surgeon and his team recently removed the gall bladder of a patient in Strasburg, France more than 4,000 miles away.

The surgeons sat in a cockpit-like console equipped with joysticks to manipulate a surgical robot via trans-oceanic fibre optic cables. Watching the proceedings on a video monitor - through images transmitted from a laparoscope inserted into the patient (keyhole surgery) - the surgeons issued instructions that were carried out by the robots' "arms."

The transmission time delay was less than 200 milliseconds. The procedure could even be used to perform an emergency operation on an astronaut in space.

Ericsson has a new mobile digital camera that snaps on to the base of your Ericsson cell phone. You just point-and-click the MCA-10 CommuniCam to send a (352x288 pixel) picture to an email account or to your album account at Ericsson's Website. Takes about one minute to take and send an image.

A French company (Poseidon Technologies of Boulogne, near Paris) has developed an electronic life-guard that can spot when swimmers are drowning. A network of underwater and overhead cameras constantly monitor a swimming pool. Smart software scans the images and tracks the trajectory of every swimmer and pays particular attention to anyone who sinks towards the bottom of pool. An alarm sounds if a person stays on the bottom for more than five seconds.

EMERGING COMMUNICATIONS

Telcos Suffer From Wireless, Broadband Exodus - Traditional telcos that were making money from selling households extra lines either for voice calling or for Internet connections are seeing those sales melt away as more people are moving toward broadband and wireless connections for such activity. Research done by Dataquest shows 55% of those surveyed have moved up to broadband access, and 33% of households surveyed said they had replaced their second phone

line with wireless service since January. Dataquest also found 64.3 million U.S. homes now have at least one wireless handset in use, up from 50% in June 2000.

Both Verizon Wireless and Sprint BPCS are making available the final "goodbye" mobile phone calls to loved ones from planes that were hijacked by terrorists. Both firms have saved all voicemails and free audio cassettes of the final recordings of those who died in the Sept. 11th tragedy are being made available to families and friends.

Emergency "wind-up" phone battery to be offered by Motorola. The battery, which can be recharged enough for a five or six minute phone call, is aimed at people who need to make a call from a cell phone with a dead or discharged battery. The 7-ounce battery, which requires 45 seconds of hand cranking, will sell for \$50. Eventually the battery will be available for all makes of cell phones. Should be in stores by year end.

Delayed by the terrorist attack, XM Radio, the nation's first satellite radio broadcaster started operation in Dallas and San Diego on September 25th. The service will be rolled out across the U.S. on November 15. Sirius Satellite Radio, a competitor, will launch its nationwide service by year end.

General Motors, a major investor in XM Radio, has already begun offering satellite radio in 2002 Cadillacs and will add other models next year. Ford, Chrysler and Mercedes-Benz will offer Sirius satellite radios in their 2003 cars. Ending totally free broadcast radio, the service is available by paying a monthly subscription fee.

XM's initial 100-channel all-digital lineup even includes a station dedicated to truckers called "Open Road." It's signal originates from a renovated printing plant in downtown Washington which houses 80 studios. From there, the signal is uplinked to two geostationary satellites -- known as "Rock" and "Roll."

But all is not well with the satellites. Built by Boeing, a flaw in the solar power systems will mean that the birds must be replaced earlier than expected. Shares of XM Satellite Radio Holdings Inc. nose-dived almost one-third on the news but recovered later.

Even though not available yet, disposable cell phones are being targeted by U.S. Attorney General John

Ashcroft and the FBI as a possible terrorist tool. Ashcroft thinks law enforcement officials should be able to eavesdrop on any phone used by a suspect in a foreign intelligence case.

The "Hop-On" wireless phone, which comes with 60 minutes of prepaid airtime, are due to hit the shelves later on this month. Tossed in the trash after use, it has only two buttons, a "Call" button for voice dialing and an "End" button.

Hop-On responded by saying that buyers will be asked to provide a name and address, so the company can contact them when it sets up a recycling program. The firm also said they will work only in the U.S., making it impossible for a foreign terrorist to call someone outside the country, and all phone calls made from the devices can be tracked through phone logs. Hop-On Wireless said phone calling cards used at payphones are more of a threat to U.S. security than disposable cell phones.

J.D. Power and Associates in its "2001 U.S. Wireless Industry Services Study," said 52 percent of U.S. households in the largest markets now have cell phones compared to only 27 percent in 1995. The cost of making a wireless call has dropped 75% during that time: from 56 cents to 14 cents a minute.

COMPUTERS & SOFTWARE

Hackers and Virus-writers take note! The Bush Administration is in the process of amending the 1986 Computer Fraud and Abuse Act (CFAA). The proposed Anti-Terrorism Act adds computer hacking to the list of federal terrorism offenses that carry up to a life imprisonment penalty.

The current rash of Internet worms, like the Code Red and Nimda, underscore the vulnerabilities of the Internet.

Section 309 says people who "knowingly cause the transmission of a program, information, code or command and, as a result of such conduct, intentionally causes damage without authorization to an Internet-connected computer..." face life in prison. The current maximum penalty for such an offense is five years.

The Justice Department's extensive proposal would make significant modifications to laws dealing with federal wiretaps, foreign intelligence surveillance, immigration and money-laundering.

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The legislation would also permit law enforcement officials to obtain e-mail address and Web-surfing information without a warrant, authorize national court orders to track Internet communications and permit "roving wiretaps."

One provision that's raising concerns would allow U.S. prosecutors to use wiretap information obtained by foreign governments, even if the collection of that information violated U.S. search-and-seizure protections. Others say it would justify the broad use of Carnivore, the FBI's e-mail search technology.

The bill also eliminates the statute of limitations for terrorist crimes and will apply retroactively.

INTERNET NEWS

Even though the online travel business is way down due to the terrorist attacks, **Forrester Research (Cambridge, MA) says that online spending will increase some 10% this holiday season to more than \$11 billion.** Some of the lost travel business will go into other online gift purchases.

Almost 35 million households will buy something online this season, up from 28.8 million last year. "This growth will be driven by experienced Web buyers who haven't cut back their spending in this weak economy, and the arrival of a new crop of e-Commerce participants."

The value of leisure travel bookings online is expected to total \$14.2 billion this year, Forrester Research believes. That figure is 15% less than originally projected. A survey of online sites found travel booking rates have recovered to about half what they were before the attacks.

Kmart's free BlueLight Internet access service which had 7-million subscribers was discontinued last month. It started as an unlimited service, then reduced to 12 hours. Free Internet access has also been a money-losing proposition for such competitors as NetZero and Juno.

The retailer is now launching a new BlueLight.com ISP that will cost \$8.95 a month for unlimited service. They say their service costs less than half as much as other major Internet providers and will have twice as many local access numbers as America Online, the nation's largest ISP. Qwest Communications International will provide the network service to 2,000

U.S. cities and towns. But subscribers will still be able to "earn" free monthly Internet service by buying Kmart products on the BlueLight Web site.

According to the Interactive Advertising Bureau, **advertising on the Internet was down 7.8% during the first half of 2001** compared with last year. Overall, all (radio, TV, print) media advertising revenues were also down - reflecting a softer economy.

Online sales at Internet retail sites returned to 85% of normal sales volume in the week following the Sept. 11 terrorist attack. Two weeks after the attack, spending at Internet retail sites rebounded to near pre-attack levels, with e-tailing sites returning to 97% of normal sales volume. Chuck Davis, president and CEO of BizRate.com said he expects 4th quarter online sales to generate \$11.55 billion, a 25% year-over-year increase.

Charter Cable TV and Microsoft's MSN team up. Charter Communications (St. Louis, MO) has recently entered into a deal with MSN to offer high-speed Internet access service. Charter (with about 7 million cable TV subscribers in 40 states) is owned by Paul Allen who founded Microsoft along with Bill Gates. MSN has 6.5 million Internet subscribers.

WASHINGTON WHISPERS

The FBI moved quickly following the Sept. 11 attacks on the World Trade Center and the Pentagon.

They immediately established a toll-free, national telephone hot line at 1-866-483-5137 and then moved to the Web.

Within minutes, they began using the Internet Fraud Complaint Center (IFCC), established in May 2000 by the FBI to handle complaints of online consumer swindles as an online terrorist tip hotline.

"Substantial productive leads" are coming in from all over the world! People in foreign countries aren't likely to telephone, but can easily contribute potentially valuable information if they have an Internet connection.

The FBI is actively pursuing more than 120,000 tips sent to the Website and toll-free hotline and hundreds of suspects have been detained.

The FAA (as of Sept. 28th) is taking online applications for Civil Aviation Security Specialists (other-

wise known as Federal Air Marshals). Salary Range is: \$35,100 to \$80,800. Go to: <<http://jobs.faa.gov/>> for more info.

The U.S. Government is considering a high-tech credit-card sized National ID Card which would be carried by all American citizens. The controversial ID card came up at a recent meeting between British Prime Minister Tony Blair and President Bush. Oracle Corp. Chairman and CEO Larry Ellison has offered to create a national identification "smart card" system and donate the software free-of-charge. The card would contain a digitized photograph of the owner and an embedded thumbprint.

Great Britain has already made the decision to issue "voluntary" identity cards which will be needed for such routine tasks as boarding an aircraft, buying gas, opening a bank account, voting, starting a job or claiming government benefits. The cards will become mandatory once laws are passed by the U.K. Parliament. Great Britain once had a wartime ID card which was discontinued in the early 1950s.

A poll conducted in Great Britain said the new cards should contain a photograph, date of birth, eye color, a finger print, DNA details, criminal records and religion. The British government believes the cards would help fight crime, prevent terrorism, identify illegal immigrants and promote citizenship. A national DNA database could immediately identify many crime suspects.

A great many countries (including Argentina, Brazil, Korea, Germany, France, Chile, Belgium, Thailand, Greece, Philippines, Luxembourg, Portugal, Singapore, Spain...and many others) already have IC's (identity cards.) Virtually all countries with ID cards report that their loss or damage causes immense problems. Up to five per cent of cards are lost, stolen or damaged each year, and the result is a loss of services and identity. Replacing them is an administrative nightmare.

The idea of a U.S. national identification is not new. More than three years ago, the U.S. Department of Transportation issued rules to make driver's licenses into a National ID Card. States would have been required to issue new drivers licenses that use the SSN (social security number) and limit government transactions to those with approved identification.

Congress, however, said the rules targeted minorities, raised serious privacy and civil liberties concerns and that the cards could be used to monitor a person's be-

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havior and activity. The "Freedom and Privacy Restoration Act of 1998" repealed the rules and prohibited Federal agencies from accepting the same identification document for identification-related purposes.

The fact remains, however, that in the United States, the SSN continues to be the de facto national identifier, despite constant rulings and legislation to the contrary. All federal agencies use the SSN as an identifier for record keeping and collection purposes. State agencies can (and many do) use the number for identification, welfare, health and revenue purposes.

The ACLU strongly opposes National ID cards. They believe they would create "an irresistible temptation to use the data for purposes for which it was never intended, including government surveillance."

The federal Electronic Communications Privacy Act (ECPA) gives employers the right to monitor all e-mail traffic and Internet activity on a company system. According to the 2001 *Electronic Policies and Practices Survey* by the American Management Association, two-thirds of all U.S. companies monitor employee e-mail and Internet use. Almost 10 percent of U.S. companies have been ordered by courts to produce employee e-mail. "Employers can reduce electronic liabilities, protect assets and stay out of court by managing employees' online behavior."

On October 1st, 711 joined 911 (emergency assistance) and 411 (directory assistance) as a telephone dialing shortcut. The new 711 three digit number allows free access to all Telecommunications Relay Services. TRS enables telephone conversations between the millions of people who do and those who do not have impaired hearing or speech.

In one type of TRS, a text telephone (TTY) user calls a voice telephone user through a TRS provider (or relay center), where a special operator places the call to the voice user, and then relays the conversation by transcribing spoken content for the TTY user and reading text aloud for the voice user. By law, each conversation is handled with the strictest confidentiality.

Both voice and TRS users will be able to initiate a 711 call from any telephone, anywhere in the United States, without having to remember and dial a seven or ten-digit access number. There are cur-

rently over 100 separate numbers nationwide for accessing relay services. See: <<http://www.fcc.gov/cib/consumerfacts/trs.html>> for more information.

More "N11" assistance numbers may be on the way. (311 for non-emergency police assistance, 511 for highway system assistance, 611 for telephone repair assistance, 811 local telephone business office assistance.) Since 011 and 111 are not available because they begin with numbers reserved for call routing information, only 211 and 511 are left.

But another "N11" service is not doing so well. Last year, 118,627 wireless 911 calls were made every day nationwide. Many callers could not accurately tell where they were or were lost and did not know.

The so-called E911 is supposed to put an end to the location dilemma. But "Enhanced 911" is not coming on line as mandated by the FCC.

Supposedly, beginning October 1, 2001 wireless carriers were to begin providing "Automatic Location Identification." ALI is the capability to identify the precise location of wireless 911 calls. The FCC E911 rules establish deployment schedules, set accuracy and reliability requirements for both handset-based and network-based ALI technologies.

The rules state that wireless carriers that employ **Handset-Based ALI Technology** that requires new, modified or upgraded handsets (such as GPS-based technology) must begin selling and activating ALI-capable handsets no later than October 1, 2001. And all carriers must have their E911 hardware/software installed and delivering E911 service to the PSAP (Public Safety Answering Point) by October 1, 2001. It didn't happen.

In addition, at least 25 percent of all new handsets activated must be ALI-capable no later than December 31, 2001; 50 percent by June 30, 2002; and no new digital handsets that are not ALI-capable may be sold after December 31, 2002. By Dec. 31, 2005, carriers must have a 95 percent penetration of ALI-capable handsets among its subscribers.

Wireless carriers that employ **Network-Based ALI Technology** must provide E911 information for at least 50 percent of the PSAP's coverage area or population on October 1, 2001 and have total coverage within 18 months. Network-based ALI uses sophisticated triangulation from nearby cell towers to locate a wire-

less handset. It is more expensive than GPS-based handsets.

ALI accuracy standards:

- For handset-based solutions: 50 meters for 67 percent of calls, 150 meters for 95 percent of calls;
- For network-based solutions: 100 meters for 67 percent of calls, 300 meters for 95 percent of calls.

In any event, a hunter lost in the woods, a driver pinned in an auto wreck or a missing sailor at sea should easily be found.

The Washington-based Cellular Telecommunications & Internet Association (CTIA) says it is not possible to meet the deadline because the "technology to make the system work isn't yet available" and therefore a nationwide rollout by Oct. 1 is "an impossibility."

Admittedly, the job is immense. The U.S. currently has 122 million wireless subscribers - some of whom would need new handsets to use a handset-based location system. And more than 104,000 cell sites need to be upgraded. Each cell site, which includes a tower and base-station electronics, could be hosting more than one carrier on the tower. It is estimated that the nationwide rollout of location technology could cost between \$1 billion and \$3 billion.

Most major cell phone carriers, including Verizon, the nation's largest, have filed petitions with the FCC asking for a waiver of the Oct. 1st deadline on the basis that the technology doesn't exist.

The carriers say they can't implement ALI capability until vendors such as Lucent supply them with the needed equipment. "You can't make a salad if you don't have lettuce," Verizon said.

On the other hand, emergency dispatchers insist the needed technology is available and that the carriers are stalling.

An interesting side note is that carriers can track phones embedded with GPS chips, even when they aren't turned on, something that privacy advocates are not too thrilled about. They are also worried that marketers, knowing exactly where callers are, will use the ALI to direct advertising (such as coupons) at the public.

AMATEUR RADIO

FCC staff member Steve Linn, 50 N4CAK, (Extra Class) of Lower

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October 15, 2001

Allen Township, Pennsylvania and his wife, Lesley Ellen, 44, were killed in an automobile accident on September 21 in Maryland. The couple's two children, Deena (age 10) and Andrew (age 13) survived the wreck with just cuts and bruises. He was on his way to the Virginia Beach Hamfest in Virginia when an 18-wheeler careened off the highway and back on, flipping on top of their car. The funeral was held Monday, Sept. 24.

Steve was a frequent speaker at various ham radio functions. Linn was deputy chief of the Licensing and Technical Analysis Branch in Gettysburg, PA. He had worked for the FCC for nearly 25 years.

Linn frequently served as a source of information on the Universal Licensing System and the Commission Registration System, CORES. He spoke about ULS during the 2000 Dayton Hamvention FCC Forum and at the July VEC Conference.

FCC Amateur Radio Enforcement

William Barriel KP4MT (Bayamon, Puerto Rico) failed to report by September 1, 2001 to the FCC's San Juan Field Office to retake the Extra Class amateur license examination. His amateur license was canceled effective September 10th.

George W. Wehrung W5TZ (Chapell Hill, TX), Dennis W. Cluder KT5S (Kingswood, TX) and Derrick W. Vogt WA4TWM (Wichita, KS) have been contacted by the FCC relative to a complaint alleging deliberate interference to ongoing communications on the 160 meter band.

"The 1800 to 1840 kHz portion ...according to the international band plan, is set aside for CW, RTTY and other narrow band modes." The complaint alleges that "you have deliberately operated LSB on 1820 to 1825 KHz on top of CW stations."

The FCC added "Band plans are voluntary in nature, but the Commission depends upon them because they minimize the necessity for Commission resources to be used in solving Amateur problems."

"Where interference results from band plans not being followed, the Commission expects substantial justification to be shown by the operators ignoring the band plans." All three must respond to the complaint within 20 days.

Leonard J. Summa W3SS (Dunmore, PA) has been sent an FCC inquiry concerning the "numerous application fil-

ings" he has made for the W3SS and W3QW call signs. On Nov. 4, 1996, his application for W3SS was granted. On Dec. 18, 1996 his call sign was changed to W3QW. On Jan. 7, 1999 his call sign was changed back to W3SS. On June 2, 1999 it was changed back again to W3QW. On May 21, 2001 the call sign once again changed back to W3SS - a series of five back-and-forth Vanity call sign changes.

Summa has been tying up two 1x2 call signs during the past five years. The FCC has asked Summa to determine which call sign he wants and to contact them within 20 days.

James E. Sausa KD4LAV (Stafford, VA) has been contacted relative to a repeater operating on 147.17 MHz "without identification or external control capabilities." Information also indicates that a cross band repeater is operating in [Fauquier County] on 146.45 MHz and transmits in the 443 MHz range.

The FCC wants to know (within 20 days) of his involvement in these systems, other equipment he may operate and their configuration and the coordination information if he owns or operates these repeaters.

Jeff M. Potter K7OPO (Chehalis, WA) has been warned that the FCC has "monitoring evidence" that he has on numerous occasions "...been deliberately interfering with other Amateur operators on 147.435 and 147.320 MHz. Additional incidents will result in a fine of up to \$7,500 and in license revocation proceedings, FCC said. He is to respond in writing to the warning within 20 days.

Kenneth P. Kelly WT2FBI (Greensboro, NC) has been ordered to retake the Technician Plus license examinations (Element 1 and 2) before October 30, 2001.

Joseph Brue, Jr. K3NM, (Brodheadsville, PA) has been warned the FCC has received a complaint that "...during a contest on September 9, 2001, you deliberately interfered with communications in progress on 7.210 Mhz. The complaint alleges you began working split operations, transmitting on 7.210MHz, and listening on 7.083 MHz, and that you continued the interference even after being notified by telephone.

He is to respond to the complaint within 20 days. "...contest participants have no greater rights to any specific fre-

quency than other Amateurs," FCC said.

Gary R. Sheets WD5FWP (San Antonio, TX) has been asked about his 442.375 MHz repeater system which "...may be configured so that a telephone caller can control the repeater and make unidentified transmissions."

Within 20 days, he is to furnish coordination and location data, information about received complaints and any action taken to resolve them. The FCC also wants to know the configuration of the WD5FWP repeater including how his telephone is connected to the repeater.

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W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #8

October 15, 2001

SHIELDING OF ELECTRONICS EQUIPMENT AGAINST ACTS OF WAR OR TERRORISM INVOLVING HOSTILE USE OF EMP

Acting as "patriots and private citizens", Donald J. Schellhardt (a Waterbury, CT attorney) and Nickolaus E. Leggett, (N3NL of Reston, VA, a ham operator, technical writer, research analyst and an independent consultant) have filed a very lengthy *Petition for Rulemaking* with the FCC seeking the initiation of a proceeding leading to the shielding of electronics equipment to protect it against an Electromagnetic Pulse (EMP) attack.

They said they represent the public in general and have no financial stake in the success of the Petition. "Rather, our stake in this proceeding is the desire to continue to live in a nation which remains strong, proud, prosperous and free."

Their cause for concern are Electromagnetic Pulses or EMP. "An Electromagnetic Pulse is a form of energy, capable of racing through a vacuum, an atmosphere and even walls of lead or steel. The best defense against it is continuous copper shielding."

"To the best of our knowledge, an Electromagnetic Pulse can pass through people, animals, other living things and most inanimate objects without doing any harm. When the EMP strikes electronic equipment, however, the effect is akin to a lightning bolt."

"Electrical charges equal to thousands of volts per meter, or even tens of thousands of volts per meter, are generated. If the electronic components of such equipment have not been shielded (or have not been shielded adequately), communications equipment and aviation equipment – but also including power grids, bank records, stock records and all of the electronic ignitions that allow modern motor vehicles to start – will be impaired, disabled or completely destroyed. In some cases, this can be done over a very wide geographic area."

They believe that the recent attacks on the World Trade Center and the Pentagon demonstrate that terrorist groups, and perhaps "rogue states" are willing to launch disabling EMP strikes against the electronics equipment which maintains the infrastructure of the United States.

"In the past, terrorists who planned to initiate an EMP against our country would have had to launch a nuclear or thermonuclear missile and detonate it over the United States at a high altitude. Today, however, thanks to technology pioneered by the United States military, an EMP can also be initiated by a non-nuclear E-bomb or a mobile generator. This simpler, less costly technology places EMP well within reach of modern terrorists." They say it is believed that the "E-bomb" can be duplicated by terrorists with access to a "1940's technologyand \$400 to \$2,000 to spend per E-bomb."

Their Petition is the second attempt by Leggett and Schellhardt to initiate FCC action on EMP. 15 years ago, in 1986, they filed a *Petition for a Notice of Inquiry (NOI)*

on EMP. That Petition, which became FCC Docket RM-5528, generated hundreds of pages of public comments and documentation, but was denied by the FCC in 1987. "In light of the World Trade Center and Pentagon bombings, we raise the issue again."

In their new Petition, they ask that a *Notice of Proposed Rulemaking* be issued "...requiring civilian electronics equipment, subject to FCC jurisdiction and not otherwise exempted, to be shielded against hostile use of an Electromagnetic Pulse (EMP) by enemies of the United States."

"Affected parties would have 18 months to begin shielding newly installed equipment and, depending upon the equipment classification, 2 to 5 years to upgrade, retrofit or replace all current equipment."

"The generally applicable performance standard for compliance is shielding that permits continued operation following an EMP of 100,000 volts/meter."

A similar Petition was simultaneously filed with the Federal Aviation Administration "...urging action to shield civilian aviation equipment. Like communications, aviation is acutely vulnerable to EMP."

The Petitioners stressed "...that action on EMP by the FCC and the FAA is necessary – but not sufficient, in and of itself, for addressing the entire problem. Because an EMP attack can disable any kind of unshielded (or inadequately shielded) computers, and any other kind of unshielded (or inadequately shielded) electronics equipment, further action by additional federal regulatory agencies is also needed."

Copies of the Petition were also sent to the National Transportation Safety Board [NTSB], the new Office of Home Security [OHS], the Secretary of Defense [DOD] and certain members of Congress.

The Petitioners "...urge both the FCC and the FAA to treat our respective proposals as the urgent matters they are." They chose to approach the FCC because the civilian communications falls under their jurisdiction. "Communications -- is perhaps the single most basic building block in holding a society together and keeping it intact under fire." They chose the FAA "...because, arguably, more lives depend upon reliable electronics in the sky than anywhere else."

If a final rule is issued by January of 2003, the shielding of newly installed equipment can begin by July of 2004 -- and the entire equipment retrofitting process can be completed by January of 2008.

It was Schellhardt and Leggett who in July 1997 also submitted a *Petition for Notice Proposed Rulemaking* to establish a *Low Power Radio Service*. They called for a Service composed of small, independently managed, community-oriented radio stations. Following thousands of public comments, the FCC established the *Low Power Radio Service* in January of 2000.

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HAM ORDERED TO DISCONTINUE MARKETING RF AMPLIFIERS

Sidney L. Martin (Extra Class) KD4YBC, (Surfside Beach, SC) of RF Electronics has been notified by the FCC that they must immediately discontinue "...manufacturing and marketing various non-certified external radio frequency power amplifier kits and external radio frequency power amplifiers."

Up until fairly recently, the RF Electronics website indicated that they manufacture the Skywalker 500W and Skymaster KW 160 to 6 meter amplifiers both in kit form and assembled. (Payment is by money order or check which must clear before product is shipped. RF Electronics does not accept credit cards or CODs.) The website, located at <<http://users.aol.com/rfelectron/rfelect.htm>>, has been shut down and is no longer accessible.

On Feb. 11, 2000, the Detroit FCC Field Office issued a warning letter to Martin as a result of a classified ad he ran in the February issue of QST magazine offering external radio frequency power amplifier kits capable of operating in the HF (160-10m) and 6 Meter ham bands. The letter warned that it was against the law to market external RF power amplifier kits capable of operating on frequencies below 144 MHz without an FCC certification. Martin was asked to furnish the certification numbers.

Martin responded by saying he believed he was in compliance with the rules because "...according to Sec. 97.315(a) of the rules, every licensed Amateur operator may purchase and construct or modify one unit of one model of a non-certified RF power amplifier or RF amplifier kit from another licensed Amateur per calendar year for personal use at his station without a grant of certification." Martin believed he was complying with the rules since he was an amateur selling only to other amateurs.

The FCC rejected Martin's position stating that "Sec. 2.815(c) ...requires 'All External Radio Frequency Power Amplifier Kits Capable of Operation [When Assembled] on Frequency(ies) below 144 MHz to be FCC Certified Prior to Marketing.'" No amplifier kit capable of such operation may be manufactured, sold, leased, offered for sale, imported, shipped, or distributed unless the kits have received an FCC grant of certification.

The rules also prohibit the manufacture and marketing (including offering for sale) any RF power amplifier kit capable of operation, when assembled, on any frequency between 24 and 35 MHz. This is to preclude possible high power use on the Citizen's Band.

"Moreover, a licensed Amateur radio operator would be in violation of Section 97.315(b)(3)(i) ...if he or she used in or attached at any station an external radio frequency power amplifier(s) that he or she had constructed from a non-certified external RF power amplifier kit(s)."

Martin questioned "...why would the FCC rules allow a licensed Amateur to modify a certified amplifier to make it non-certified and not allow the same licensed Amateur

to purchase and build a non-certified kit?"

The FCC responded by saying that "...the rules do allow them to do both..." but Section 97.315(b)(3)(i) specifically "...prohibits the use in the Amateur service of an amplifier that the operator had constructed from a non-certified kit."

"We also find incorrect your statement that 'Licensed Amateurs are well within their rights under FCC rule Section 2.815 to modify... and sell RF amplifiers that are capable of covering through 10M which makes them non-certified amps.' In fact, the Commission's rules address modification separately from fabrication and construction," FCC said.

"Sec. 97.315(a) allows the modification or construction of no more than one unit of one model during any calendar year by an Amateur operator without certification of the device. Sec. 97.315(b)(3)(ii) allows a licensed Amateur radio operator to use in a station an amplifier modified by him/her for use at the licensee's station."

For amplifiers operational between 24 and 35 MHz, Sec. 2.815(d) exempts only those assembled amplifiers that were "...fabricated in not more than one unit of the same model in a calendar year by [the licensed amateur who fabricated it]."

The term 'fabricated' does not include modification of existing amplifiers. "...modified amplifiers capable of operation on frequencies between 24 and 35 MHz may not be marketed. Prior to the marketing of a modified amplifier, a licensed amateur must, if applicable, significantly restore the device incapable of operation on frequencies between 24 and 35 MHz."

The FCC said it has no record of an FCC grant of certification for the external radio frequency power amplifiers that are marketed by RF Electronics. It added that RF Electronics was not exempt from the prohibitions against manufacturing and/or marketing non-certified external RF power amplifiers because they were being marketed as a business and not as part of the amateur service..."

"As a licensed amateur radio operator, Section 97.315(a) authorizes you to construct (without pecuniary interest) no more than one unit of one model of an external RF power amplifier capable of operation below 144 MHz during any calendar year without first obtaining a grant of certification."

Martin advertised the amplifiers as being operational between 24 and 35 MHz. No one including amateur radio operators may manufacture and/or market of such devices unless it for his personal use at his amateur station.

"You must immediately cease any and all commercial marketing of non-certified external radio frequency power amplifiers and amplifier kits capable of operation below 144 MHz." Failure to do so could result in criminal prosecution and will result in enforcement action against Martin's Amateur license, including revocation and a fine.

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Table No. 2

Frequency Band	Power	Mode
135.7 - 137.8 kHz	1W erp	(All bands)
1810-2000 kHz	10W output	
3.5 to 3.8 MHz	10W output	Morse
7.0-7.1 MHz	10W output	Telephony
10.10-10.15 MHz	10W output	(AM/FM/SSB)
14.000-14.35 MHz	10W output	RTTY
18.068-18.168 MHz	10W output	Data
21.00-21.45 MHz	10W output	Facsimile
24.89-24.99 MHz	10W output	SSTV
50-52 MHz	10W output	(FSTV-
70-70.5 MHz	10W output	above 50 MHz.)
144-146 MHz	10W erp	
430-432 MHz	10W output	
432-440 MHz	10W erp	

Frequency, power and mode privileges accorded to the United Kingdom's new Foundation Class license. Pulse emission is not authorized.

Obtaining the beginner's license

Study for the Foundation license will be able to be completed over a weekend or even a single day. The training, based on an 8 to 10 hour course conducted by radioamateurs, will focus on supervised on-the-air operation, practical "hands on" instruction on operating procedures, essential regulations, avoiding interference, simple construction practices, basic radio theory and safety.

Additionally, to encourage the practical aspect of amateur radio training, unlicensed trainees participating in a registered training course may be supervised by full license-holders to operate a station and contact other UK licensed amateurs.

The concept is basically one of "apprenticeship" overseen by amateurs and/or school teachers utilizing a course textbook. The focus will be on knowing "what to do" and "what not to do" on the air. The RA is also considering relaxing the rules on supervised operation where there is no licensed schoolteacher.

At the end of the course, a simple 20 question multiple choice examination will be administered by the instructor or some other "registered body" ...such as the local ham club. There will be a fee to take the examination but the cost has not yet been determined. Anyone can take the test; there are no age restrictions. As with all UK ham licenses, there is also an annual fee of £15 (about \$23 U.S.) but the license will be free to those aged under 21 or 75 years or over. Pilot lessons are already underway to evaluate the syllabus and training material.

The RA expects the new entry-level system to be fully operational in January 2002. The RSGB will be handling much of the routine administration of the training and examination process. At course end, the examinee ap-

plies to the RA for the license, enclosing a copy of his or her "Foundation License Training Course Completion Slip." All UK ham operators are required to keep a log of all transmissions ...except those being made mobile.

The beginning Foundation license started out as a 25W VHF/UHF class using only commercially-made equipment. The RSGB wanted a way, however, for trainees to be able to operate HF and to assemble home-built "QRP kits" and this has been approved by the RA. The kit must be commercially available and not require test equipment or extensive electronic construction practices to be completed.

The use of home built transmitters (that is, equipment constructed by the Amateur without using commercially produced kits) will not be allowed under the Foundation license. The reason for this is that greater technical knowledge is required to properly construct home built equipment than the Foundation course would provide and there is a risk that the equipment may cause interference to other radio users.

HF operation with essentially no code!

Realizing that one of the greater interests in ham radio is the ability to contact amateurs in other countries, the RSGB and RA wanted to find a way for beginners to be able to operate HF voice without learning the code. The *International Radio Regulations* require that, to operate on the HF frequencies, an Amateur operator must "...prove that he is able to send correct by hand and to receive correctly by ear, texts in Morse code signals." There is no speed requirement, nor do the international rules specify how this proficiency must be demonstrated.

The RA and RSGB have now agreed that this requirement will consist of a "simple assessment" whereby the examinee will be permitted to use crib sheets to encode messages into Morse. For example, one of the twenty examination questions might be: "What is the letter 'A' in Morse code?" The applicant would look at their chart of alpha/numeric characters and corresponding dot-dash sequences and write down the text: the single letter "A" as a dot and a dash and then send it. The same would work in reverse when decoding a series of dots and dashes. You hear and write down the dot-dash sequence and then, using the look-up crib sheet, translate them into letters. This is to comply with current international amateur HF access regulations until after WRC-2003 when it is assumed that the Morse testing requirement will be removed.

This means that anyone with totally no knowledge of Morse code whatsoever would be able to easily pass the telegraphy "assessment." This Morse code proficiency "test" is not just a proposal being considered. It is exactly how the United Kingdom will be administering code exams to beginning Foundation Class applicants.